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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,782	12/12/2001	Stephen Memory	665.00947	9531
7590	03/29/2006			
WOOD, PHILLIPS, VAN SANTEN, CLARK & MORTIMER SUITE 3800 500 WEST MADISON STREET CHICAGO, IL 60661			EXAMINER LEO, LEONARD R	
			ART UNIT 3753	PAPER NUMBER

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/020,782

Applicant(s)

MEMORY ET AL.

Examiner

Leonard R. Leo

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8, 13, 20 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8, 13, 20 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The amendment filed on January 17, 2006 has been entered. Claims 8, 13-20 and 23-25 are pending, and claims 14-19 and 24-25 remain withdrawn from consideration.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 13, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dienhart et al (US and DE, collectively) in view of Haussmann.

Dienhart et al discloses all the claimed limitations except a plurality of alternating tabs and elongated separations in the fin. Although, Dienhart (DE) is the priority document for Dienhart (US), Figures 4 and 6 vary in perspective. Dienhart (DE) is believed to correctly depict the common serpentine fin 8 between the serially connected tube rows. The office action will refer to the documents collectively.

Haussmann discloses a heat exchanger comprising a pair of legs 14, 16 defining a serial fluid pass, and a common fin 30 traversing the legs having a plurality of alternating tabs 52 and elongated separations 36 for the purpose of thermally decoupling the legs. Figure 8 of Haussmann discloses both removal and nonremoval of material to form the slots 36.

Since Dienhart et al and Haussmann are both from the same field of endeavor and/or analogous art, the purpose disclosed by Haussmann would have been recognized in the pertinent art of Dienhart et al.

Art Unit: 3753

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Dienhart et al a plurality of alternating tabs and elongated separations for the purpose of thermally decoupling the legs as recognized by Hausmann.

Regarding claim 13, Dienhart et al (US)(column 9, lines 15-23) discloses the device is employed in a CO2 air conditioning system, i.e. transcritical. As evidenced by Lorentzen et al (column 1, lines 29-33), basic air conditioning systems comprise an evaporator, compressor and a gas cooler (i.e. condenser).

Regarding claim 20, air conditioners are similar in structure to heat pumps, with the exception of a reversing valve to provide a heating mode. As evidenced by Lorentzen et al (column 1, lines 7-12), air conditioners and heat pumps are synonymous with one another, each having vapor compression cycle devices operating under transcritical conditions.

Claims 8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binello in view of Hausmann.

Binello discloses all the claimed limitations except a heat flow interrupter.

Hausmann discloses a heat exchanger comprising a pair of legs 14, 16 defining a serial fluid pass, and a common fin 30 traversing the legs having a plurality of alternating tabs 52 and elongated separations 36 for the purpose of thermally decoupling the legs. Figure 8 of Hausmann discloses both removal and nonremoval of material to form the slots 36.

Since Binello and Hausmann are both from the same field of endeavor and/or analogous art, the purpose disclosed by Hausmann would have been recognized in the pertinent art of Binello.

Art Unit: 3753

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Binello a heat flow interrupter for the purpose of thermally decoupling the legs as recognized by Hausmann.

Claims 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binello in view of Lorentzen et al.

Binello discloses all the claimed limitations except a transcritical refrigeration system.

Lorentzen et al (column 1, lines 29-33) discloses basic air conditioning systems comprise an evaporator, compressor and a gas cooler (i.e. condenser), wherein the system operates in a transcritical condition for the purpose of achieving optimal performance.

Since Binello and Lorentzen et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Lorentzen et al would have been recognized in the pertinent art of Binello.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ Binello in a transcritical refrigeration system for the purpose of achieving optimal performance as recognized by Lorentzen et al.

Regarding claim 20, Lorentzen et al (column 1, lines 7-12) discloses air conditioners and heat pumps are synonymous with one another, each having vapor compression cycle devices operating under transcritical conditions.

***Response to Arguments***

Applicant's arguments have been fully considered but they are not persuasive.

In response to applicant's argument that "one skilled in the art would not look to the teachings of Hausmann with respect to plate fins", the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Clearly, one of ordinary skill in the art would employ the teaching of thermal breaks in fins, albeit plate fins in Hausmann, in a serpentine fin to minimize heat transfer from one section to another. The existence of thermal breaks in serpentine fins is well known as demonstrated by the prior art of record.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

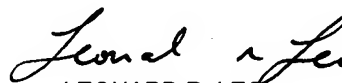
Art Unit: 3753

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

  
LEONARD R. LEO  
PRIMARY EXAMINER  
ART UNIT 3753

March 25, 2006